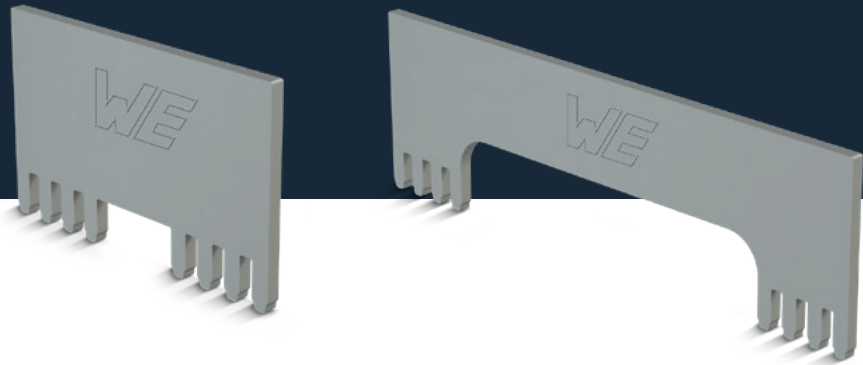


POWERBUSBAR PF

PowerBusbars



PowerBusbar PF are copper busbars from Würth Elektronik ICS. These busbars are used whenever high currents need to be distributed across PCB's. Thanks to its modular design of the standard sizes, even complex (current) paths can be implemented on the circuit board.

Advantages of PowerBusbar PF:

- The current carrying capacity of the PCB can be increased selectively.
- The busbar, with its high copper cross-section, can replace thick copper PCBs or special PCBs with copper inlays.
- Thanks to their vertical arrangement and the material's good thermal conductivity, these busbars act like heat sinks, efficiently dissipating heat from the entire system (heat conductor), this helps to improve reliability and current carrying capacity and avoids hot spots.
- Using standard PCBs offers cost advantages.
- Utilising busbars modularly increases the flexibility of the PCB layout.
- Using PowerBusbar PF as a high-current signal bridge enables a 3D layout to be implemented.
- Standardised busbars offer universal application possibilities and cost efficiencies.

Processing

PowerBusbar PF with pins are pressed into the PCB. Soldering is not required, so there is no temperature stress. This manufacturing step easily fits into the process and is highly cost effective. With the aid of the corresponding tools, several PowerBusbars can be pressed-in simultaneously.

Processing information


- For assembling prototypes, no special equipment is required for pressing-in, as a simple toggle press is sufficient.
- The PCB must be supported during the press-fit process.
- The press force has to be applied at a 90° angle to the PCB.
- PCB through-hole plating has to be performed according to the specifications of Würth Elektronik ICS.
- The PowerBusbar PF are designed for pressing-in, and a soldering process is not intended.
- Use only with suitable press-in tools (see processing instructions).

Technical data	
Current carrying capacity	The current carrying capacity must be considered in the context of the overall system. It depends, among other things, on the PCB layout, the busbars and the thermal management.
Material	Copper alloy
Surface	Tin

Dimensions PowerBusbar	
Length x width x thickness	19 mm x 18.4 mm x 1.2 mm 29 mm x 18.4 mm x 1.2 mm 39 mm x 18.4 mm x 1.2 mm 59 mm x 18.4 mm x 1.2 mm
Height above PCB	13.6 mm
Pin length	4.8 mm
Pin diagonal	2.0 mm

PCB	
Base material	FR4 (EP-GC-)
PCB thickness	from 1.5 mm

Processing parameters	
Press-in force	min. 60 N per pin max. 250 N per pin
Retention force	60 – 80 % of the press-in force
Press-in speed	100 – 250 mm/min

 With comprehensive engineering expertise and as a pioneer for high current contacts, we will meet your requirements and find the best technical and economical solution.



REACH
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POWERBUSBAR PF

PowerBusbars

PCB design

The PCB has to be designed in accordance with the latest edition of IPC A 600.

For solid press-fit technology, the PCBs are to be finished according to the Würth Elektronik ICS Press-fit specifications.

Particular attention should be paid to the drill diameter and the copper thickness.

Qualification

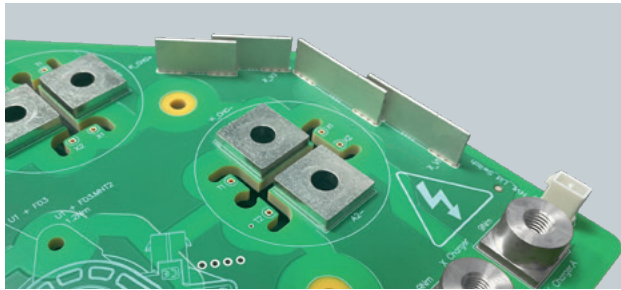
PowerBusbar PF have successfully passed the vibration test and the mechanical shock test.


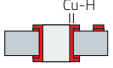
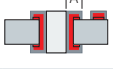
Vibration test according to IEC 60068-2-64 Random.

Mechanical shock test according to IEC 60068-2-27.

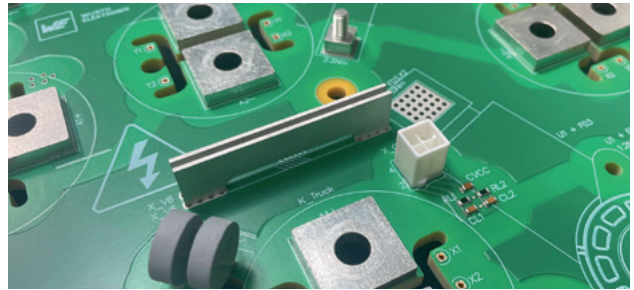
Design options for PowerBusbar PF

PowerBusbar PF can be used either as high current paths or as high current bridges (3D layout option). The following examples show how the busbars can be used on a PCB:



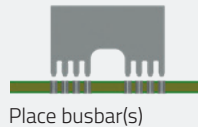
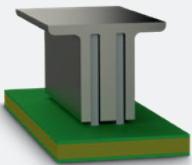
Würth Elektronik ICS – Press-fit specification 5.1 (Example for 2.0 mm pin)		
Drill \emptyset		drill tool drill hole 2.00 mm 2.00 - 0.025 mm
Cu		Cu - in Hole Annular Ring Average 30 – 60 μm min. 25 μm , max. 80 μm * min. 125 μm
End \emptyset		depends on surface HAL chem. surfaces (1.850 +/- 0.05 mm) (1.875 +/- 0.05 mm)
Note: For press-fit technology, drill \emptyset and copper thickness are fix. End \emptyset for reference only.		

*single measurement points in microsection

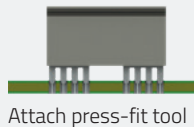


Mounting options for PowerBusbar PF

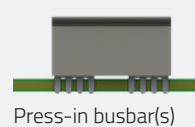
Option 1: Press-fit process with PowerBusbar PF tool



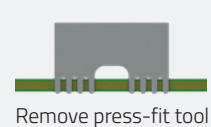
Place busbar(s)



Attach press-fit tool

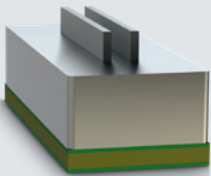


Press-in busbar(s)



Remove press-fit tool

Option 2: Press-fit process with press-fit template and standard press-fit tool



Place press-fit template



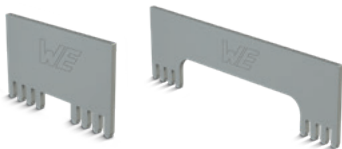
Place busbar(s) in press-fit template



Press-in busbar(s)



Remove press-fit template



Overview of PowerBusbar PF standard products

K903583	19 mm x 18.4 mm x 1.2 mm
K903584	29 mm x 18.4 mm x 1.2 mm
K903585	39 mm x 18.4 mm x 1.2 mm
K904252	59 mm x 18.4 mm x 1.2 mm

We reserve the right to make technical changes and changes to the product range.
No liability for misprints and errors

Further information you can find at
www.powelement.com, by email at
powelement@we-online.com, or
by phone at **+49 7940 9810-4444**.



CONTACT US

Würth Elektronik ICS GmbH & Co. KG
Intelligent Power & Control Systems
ics@we-online.com · www.we-online.com/ics